

## PATENT APPLICATION

**DECLARATION AND POWER OF ATTORNEY****Original Application**

As below named inventor, I declare that I have reviewed and understand the contents of the specification, including the claims, as amended by any amendment specifically referred to in this Declaration, that the information given herein is true, that I believe that I am the original, first and sole inventor of the invention entitled:

**A TAILORED BARRIER LAYER WHICH PROVIDES IMPROVED COPPER INTERCONNECT  
ELECTROMIGRATION RESISTANCE**

which is described and claimed in:

X the attached specification or

the specification in application Serial No. \_\_\_\_\_ filed \_\_\_\_\_ amended \_\_\_\_\_

that I acknowledge my duty to disclose information in accordance with 37 C.F.R. Section 1.56 and defined on the attached sheet, which is material to the examination of this application, that I do not know and do not believe the same was ever known or used in the United States of America before my or our invention thereof or patented or described in any printed publication in any country before my or our invention thereof, or more than one year prior to this application, or in public use or on sale in the United States of America more than one year prior to this application, that the invention has not been patented or made the subject of an inventor's certificate issued before the date of this application in any country foreign to the United States of America on an application filed by me or my legal representatives or assigns more than twelve months prior to this application and that as to applications for patent or inventor's certificate filed by me or my legal representatives or assigns in any country foreign to the United States of America, the earliest filed foreign applications(s) filed within twelve months prior to the filing date of this application and all foreign applications filed more than twelve months prior to the filing date of this application, if any, are identified below.

**CHECK APPROPRIATE BOX:**

X No earlier-filed foreign applications.

Required information as to foreign applications filed prior to filing date of this application is on page 5 attached hereto and made a part hereof.

# POWER OF ATTORNEY:

As a named inventor, I hereby appoint the following attorney(s) and/or agent(s) to prosecute this application and transact all business in the Patent and Trademark Office connected therewith.

NAME REGISTRATION NO.  
Michael L. Sherrard 28,041  
Peter J. Sgarbossa 25,610  
Donald J. Verplancken 33,217  
Michael B. Einschlag 29,301  
Lawrence Edelman 25,225

NAME REGISTRATION NO.  
Raymond Kam-On Kwong 37,165  
Leslie Weise 36,305  
James C. Wilson 35,412  
Shirley L. Church 31,858  
Kathi Rafayko 36,644

## SEND CORRESPONDENCE TO:


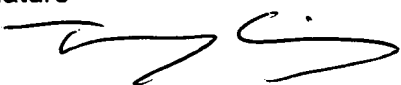
Patent Counsel  
Applied Materials, Inc.  
P.O. Box 450-A  
Santa Clara, California 95052

## DIRECT TELEPHONE CALLS TO:

Shirley L. Church, Esq.  
(408) 745-1567

(201) FULL NAME OF INVENTOR	LAST NAME Ding	FIRST NAME Peijun	MIDDLE NAME	
RESIDENCE & CITIZENSHIP	CITY San Jose	STATE OR FOREIGN COUNTRY California	COUNTRY OF CITIZENSHIP People's Republic of China	
POST OFFICE ADDRESS	POST OFFICE ADDRESS 1020 W. Riverside Way	CITY San Jose	STATE OR COUNTRY California	ZIP CODE 95129
(202) FULL NAME OF INVENTOR	LAST NAME Chiang	FIRST NAME Tony	MIDDLE NAME	
RESIDENCE & CITIZENSHIP	CITY Mountain View	STATE OR FOREIGN COUNTRY California	COUNTRY OF CITIZENSHIP U.S.A.	
POST OFFICE ADDRESS	POST OFFICE ADDRESS 100 N. Whisman Road, #17	CITY Mountain View	STATE OR COUNTRY California	ZIP CODE 94043
(203) FULL NAME OF INVENTOR	LAST NAME Chin	FIRST NAME Barry	MIDDLE NAME L.	
RESIDENCE & CITIZENSHIP	CITY Saratoga	STATE OR FOREIGN COUNTRY California	COUNTRY OF CITIZENSHIP U.S.A.	
POST OFFICE ADDRESS	POST OFFICE ADDRESS 13174 Cumberland Drive	CITY Saratoga	STATE OR COUNTRY California	ZIP CODE 95070
(204) FULL NAME OF INVENTOR	LAST NAME	FIRST NAME	MIDDLE NAME	
RESIDENCE & CITIZENSHIP	CITY	STATE OR FOREIGN COUNTRY	COUNTRY OF CITIZENSHIP	
POST OFFICE ADDRESS	POST OFFICE ADDRESS	CITY	STATE OR COUNTRY	ZIP CODE

I further declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

Name (201) NAME: Peijun Ding	Signature 	Date 12/18/97
Name (202) NAME: Tony Chiang	Signature 	Date 12/18/97
Name (203) NAME: Barry L. Chin	Signature Barry L. Chin	Date 12/19/97
Name (204) NAME:	Signature	Date

#### Section 1.56 Duty to Disclose Information Material to Patentability.

(a) A patent by its very nature is affected with a public interest. The public interest is best served, and the most effective patent examination occurs when, at the time an application is being examined, the Office is aware of and evaluates the teachings of all information material to patentability. Each individual associated with the filing and prosecution of a patent application has a duty of candor and good faith in dealing with the Office, which includes a duty to disclose to the Office all information known to that individual to be material to patentability as defined in this section. The duty to disclose information exists with respect to each pending claim until the claim is cancelled or withdrawn from consideration, or the application becomes abandoned. Information material to the patentability of a claim that is cancelled or withdrawn from consideration need not be submitted if the information is not material to the patentability of any claim remaining under consideration in the application. There is no duty to submit information which is not material to the patentability of any existing claim. The duty to disclose all information known to be material to patentability is deemed to be satisfied if all information known to be material to patentability of any claim issued in a patent was cited by the Office or submitted to the Office in the manner prescribed by Sections 1.97(b)-(d) and 1.98. However, no patent will be granted on an application in connection with which fraud on the Office was practiced or attempted or the duty of disclosure was violated through bad faith or intentional misconduct. The Office encourages applications to carefully examine:

- (1) prior art cited in search reports of a foreign patent office in a counterpart application, and
- (2) the closest information over which individuals associated with the filing or prosecution of a patent application believe any pending claim patentably defines, to make sure that any material information contained therein is disclosed to the Office.

(b) Under this section, information is material to patentability when it is not cumulative to information already of record or being made of record in the application, and

(1) It establishes, by itself or in combination with other information, a prima facie case of unpatentability of a claim; or

(2) It refutes, or is inconsistent with, a position the application takes in:

(i) opposing an argument of unpatentability relied on by the Office, or

(ii) Asserting an argument of patentability.

A prima facie case of unpatentability is established when the information compels a conclusion that a claim is unpatentable under the preponderance of evidence, burden-of-proof standard, giving each term in the claim its broadest reasonable construction consistent with the specification, and before any considerations given to evidence which may be submitted in an attempt to establish a contrary conclusion of patentability.

(c) Individuals associated with the filing or prosecution of a patent application within the meaning of this section are:

(1) Each inventor named in the application;

(2) Each attorney or agent who prepares or prosecutes the application; and

(3) Every other person who is substantively involved in the preparation or prosecution of the application and who is associated with the inventor, with the assignee or with anyone to whom there is an obligation to assign the application.

(d) Individuals other than the attorney, agent or inventor may comply with this section by disclosing information to the attorney, agent or inventor.